## CLAIMS

WE CLAIM:

1. A long-term monitor using scheduled short-term acquisition of data from a patient for determining whether an arrhythmia selected from the group consisting of at leas one of atrial fibrillation, atrial flutter, a prolonged QT interval, atrial tachycardia, PVC's, and ventricular pauses exists, the monitor comprising:

(a) a first and second momentary contact electrode for momentarily receiving ECG signals from the patient;

(b) a detector circuit communicating with the first and second electrodes and executing a stored program to:

(i) receive the ECG signals from the patient touching the first and second momentary contact electrodes;

(ii) detect a likelihood that the patient is experiencing at least one of the arrhythmias; and

(iii) provide a first output signal to the patient if the likelihood is above a predetermined threshold and otherwise providing to the patient a second output signal indicating that the likelihood is not above the predetermined threshold.

2. The monitor of claim 1, further comprising a sensor in communication with at least one of the momentary contact electrodes and the detector circuit that activates the circuit only upon a determination that the patient is touching the at least one contact electrode.

3. The monitor of claim 1, wherein at least one of the momentary contact electrodes are configured to constantly contact the patient, further comprising a sensor that activates the detector circuit only upon a determination that the patient is touching the other contact electrode.

4. The monitor of claim 3, wherein both momentary contact electrodes constantly contact the patient, further comprising timing circuitry that enables the detector circuit to receive the ECG signals for a short period of time substantially less than a daily interval.

5. The monitor of claim 4, further comprising an operator that is manually activated to enable the detector circuit to receive the ECG signals.

6. The monitor of claim 1 wherein the momentary contact electrodes are handles graspable by the patient's right and left hands.

7. The monitor of claim 1 wherein the momentary contract electrodes are finger pads sized to contact the patient's fingers on the left and right hand.

8. The monitor of claim 1 wherein the momentary contact electrodes are operators for switches and wherein the detector circuit communicates with the switches to monitor ECG signals only when the switches are activated by a pressing inward of the switch operators by contact with the patient.

9. The monitor of claim 1 further including an illuminating indicator and wherein the first and second outputs to the patient are different illuminations of the indicator.

10. The monitor of claim 1 further including a recording media and wherein the detector circuit further

(iv) records the received ECG signals subsequent to the patient touching the momentary contact electrodes.

11. The monitor of claim 10 further including a communication circuit and wherein the detector circuit further

(v) provides communication of the recorded ECG signals to communication circuit for communication to a remote site.

12. The monitor of claim 1 further including a communication circuit and wherein the detector circuit further

(iv) communicates the ECG signals to the communication circuit for transmission to a remote site.

13. The monitor of claim 12, wherein the communication circuit further comprises a telephone line communication circuit.

14. The monitor of claim 1 further including an alarm clock circuit providing an output signal to the patient to remind the patient to contact the electrodes for a reading.

15. The monitor of claim 1 further including a text display communicating with the detector circuit to provide text messages instructing the patient in touching the momentary contact electrodes and remaining in contact with the electrodes prior to generation of the output signal.

16. The monitor of claim 1, further comprising a cascading memory having a plurality of memory storage locations storing previously stored ECG data bearing a tag, wherein newly acquired ECG data is stored in that storage location whose data has the oldest tag.

17. The monitor of claim 1, further comprising nonvolatile memory operable to retain a baseline ECG signal, and wherein the received ECG signal is compared to the baseline ECG signal to determine whether the likelihood of a prolonged QT interval exists.

18. The monitor of claim 1, wherein the output signals comprise at least one of a light, a vibrating mechanism, a display, and an audible alarm.

19. The monitor of claim 1, wherein the electrodes are capacitively coupled.

20. The monitor of claim 1, further comprising an alarm clock circuit providing an output signal to the patient to remind the patient to contact the electrodes for a reading.

21. A method of long term monitoring a patient for an arrhythmia selected from the group consisting of at leas one of atrial fibrillation, atrial flutter, a prolonged QT interval, atrial tachycardia, PVC's, and ventricular pauses using a monitor having a first and second momentary contact electrode sized to contact a patient, and incorporating a detector circuit communicating with the first and second momentary contact electrode, the method comprising the steps of:

(a) touching at least one of the momentary contact electrodes;

(b) at no more than a predetermined interval, collecting from the patient an ECG sample when the patient touches the momentary contact electrodes, wherein the data is collected for a short period of time substantially less than a daily interval;

(c) detect by the detector circuit a likelihood that the patient is experiencing at least one of the arrhythmias; and

(d) provide a first signal to the patient when the likelihood is above a predetermined threshold and otherwise providing to the patient a second output signal indicating that the likelihood is not above the predetermined threshold.

22. The method of claim 21, wherein step (a) further comprises sensing that the patient is touching at least one of the momentary contact electrodes.

23. The method of claim 21, wherein step (a) further comprises placing the contact electrodes in constant contact with the patient.

24. The method of claim 21 wherein step (b) is conducted in the morning after the patient wakes.

25. The method of claim 21 wherein the monitor includes a recording media and including the further step of:

(2) recording the received ECG signals subsequent to the patient touching the first and second momentary contact electrodes.

26. The method of claim 25 wherein the monitor includes a communication circuit and further including the step of:

(e) communicating of the recorded ECG signals to a remote site.

27. The method of claim 21 wherein the monitor includes a communication circuit and further including the step of:

(e) communicating of the recorded ECG signals to a remote site.

28. The method of claim 27, wherein the communication circuit further comprises a telephone line communication circuit.

29. The method of claim 21 wherein the monitor includes a clock circuit and further including the step of:

(e) providing a second output signal to the patient at daily intervals to remind the patient to grasp the momentary contact electrodes.

30. The method of claim 21 wherein the monitor includes a text display communicating with the atrial flutter detector circuit and further including the steps of:

(e) providing text messages instructing the patient in touching the first and second momentary contact electrodes and remaining in contact with the elements prior to generation of the output signal.

31. The monitor of claim 21, further comprising:

e) storing ECG data in a cascading memory having a plurality of memory slots,

f) tagging the ECG data with an age indication stamp;

f) directing the stored ECG data into a memory slot currently storing ECG data having an oldest age indication stamp.

32. The method of claim 21, further comprising the step of storing baseline ECG data in nonvolatile memory and comparing the collected ECG signal to the stored baseline ECG data.

33. The method of claim 21, wherein step (d) further comprises providing the signals with at least one of a light, a vibrating mechanism, a display, and an audible alarm.

34. The method of claim 21, wherein the momentary contact electrodes are capacitively coupled.

35. The method of claim 21, wherein step (c) further comprises testing for the arrhythmia using more than one method.

36. The method of claim 35, wherein step (d) further comprises providing the first signal when any of the methods indicate the likelihood is above a predetermined threshold.

37. The method of claim 21, further comprising the step of storing baseline ECG data, wherein step (c) further comprises comparing the collected data to the baseline data to determine the likelihood of a prolonged QT interval.

38. A long-term monitor using scheduled short-term acquisition of data from a patient for detecting an arrhythmia, the monitor comprising:

(a) a first and second momentary contact electrode for momentarily receiving ECG signals from the patient;

(b) a detector circuit communicating with the first and second electrodes and executing a stored program to:

(i) receive the ECG signals from the patient touching the first and second momentary contact electrodes;

(ii) detect a likelihood that the patient is experiencing the arrhythmia; and

(iii) provide a first output signal to the patient if the likelihood is above a predetermined threshold and otherwise providing to the patient a second output signal indicating that the likelihood is not above the predetermined threshold; and

(c) a cascading memory having a plurality storage locations configured to store received ECG signals, wherein an age identifier corresponds to each received ECG signal, and wherein newly received ECG signals are stored in the storage location whose data corresponds to the oldest age identifier.

39. The monitor of claim 38, further comprising a sensor in communication with at least one of the momentary contact electrodes and the detector circuit that activates the circuit only upon a determination that the patient is touching the at least one contact electrode.

40. The monitor of claim 39, wherein at least one of the momentary contact electrodes is configured to constantly contact the patient, wherein the second momentary contact electrode is selectively engageable by the patient, and wherein the sensor activates the detector circuit upon a determination that the patient is touching both electrodes.

41. The monitor of claim 38, wherein the momentary contact electrodes are configured to constant contact the patient, further comprising timing circuitry that enables the detector circuit to receive the ECG signals for a short period of time substantially less than a daily interval.

42. The monitor of claim 38 wherein the momentary contact electrodes are handles graspable by the patient's right and left hands.

43. The monitor of claim 38 wherein the momentary contract electrodes are finger pads sized to contact the patient's fingers on the left and right hand.

44. The monitor of claim 38 wherein the momentary contact electrodes are operators for switches and wherein the detector circuit communicates with the switches to monitor ECG signals only when the switches are activated by a pressing inward of the switch operators by contact with the patient.

45. The monitor of claim 38 further including an illuminating indicator and wherein the first and second outputs to the patient are different illuminations of the indicator.

46. The monitor of claim 38 further including a communication circuit and wherein the detector circuit further

(iv) communicates the ECG signals to the communication circuit for transmission to a remote site.

47. The monitor of claim 46, wherein the communication circuit further comprises a telephone line communication circuit.

48 The monitor of claim 46, wherein the communication circuit further comprises Bluetooth™.

49. The monitor of claim 46, wherein the communication circuit further comprises an infrared module.

50. The monitor of claim 38 further including an alarm clock circuit providing an output signal to the patient to remind the patient to contact the electrodes for a reading.

51. The monitor of claim 38 further including a text display communicating with the detector circuit to provide text messages instructing the patient in touching the momentary contact electrodes and remaining in contact with the electrodes prior to generation of the output signal.

52. The monitor of claim 38, wherein the output signals comprise at least one of a light, a vibrating mechanism, a display, and an audible alarm.

53. The monitor of claim 38, wherein the electrodes are capacitively coupled.

54. The monitor of claim 38, wherein the memory further includes a nonvolatile storage location configured to receive a historical baseline ECG sample, wherein the baseline ECG sample is compared to the received ECG sample to detect the arrhythmia.

54. A method of long term monitoring a patient for an arrhythmia using a monitor having a first and second momentary contact electrode sized to contact a patient, and incorporating a detector circuit communicating with the first and second momentary contact electrode, the method comprising the steps of:

(a) touching at least one of the momentary contact electrodes;

(b) at no more than a predetermined interval, collecting from the patient an ECG sample when the patient touches the momentary contact electrodes, wherein the data is collected for a short period of time substantially less than a daily interval;

(c) detect by the detector circuit a likelihood that the patient is experiencing at least the arrhythmia;

(d) provide a first signal to the patient when the likelihood is above a predetermined threshold and otherwise providing to the patient a second output signal indicating that the likelihood is not above the predetermined threshold;

e) storing ECG data in a cascading memory having a plurality of memory storage locations;

f) assigning an age indicator to each stored ECG signal;

g) directing the stored ECG data into a memory slot currently storing ECG data having an oldest age indicator.

55. The method of claim 54, wherein step (a) further comprises sensing that the patient is touching at least one of the momentary contact electrodes.

56. The method of claim 54, wherein step (a) further comprises placing the contact electrodes in constant contact with the patient.

57. The method of claim 54, wherein step (a) further comprises placing one contact electrode in constant contact with the patient, wherein the patient momentarily touches the other electrode, further comprising the step of sensing that the patient is touching both contact electrodes.

58. The method of claim 54 wherein step (b) is conducted in the morning after the patient wakes.

59. The method of claim 54 wherein the monitor includes a communication circuit and further including the step of:

(e) communicating of the recorded ECG signals to a remote site.

60. The method of claim 59, wherein step (e) further comprises communicating previously stored ECG signals to the remote site.

61. The method of claim 59, wherein the communication circuit further comprises a telephone line communication circuit.

62. The method of claim 54 wherein the monitor includes a clock circuit and further including the step of:

(e) providing a second output signal to the patient at daily intervals to remind the patient to grasp the momentary contact electrodes.

63. The method of claim 54 wherein the monitor includes a text display communicating with the atrial flutter detector circuit and further including the steps of:

(e) providing text messages instructing the patient in touching the first and second momentary contact electrodes and remaining in contact with the elements prior to generation of the output signal.

64. The method of claim 54, further comprising the step of storing baseline ECG data in nonvolatile memory and comparing the collected ECG signal to the stored baseline ECG data.

65. The method of claim 54, wherein step (d) further comprises providing the signals with at least one of a light, a vibrating mechanism, a display, and an audible alarm.

66. The method of claim 54, wherein the momentary contact electrodes are capacitively coupled.

67. The method of claim 54, wherein step (c) further comprises testing for the arrhythmia using more than one method.

68. The method of claim 67, wherein step (d) further comprises providing the first signal when any of the methods indicate the likelihood is above a predetermined threshold.

69. The method of claim 54, further comprising the step of storing baseline ECG data, wherein step (c) further comprises comparing the collected data to the baseline data to determine the likelihood of a prolonged QT interval.

70. The method of claim 54, wherein the arrhythmia comprises at least one of atrial flutter and atrial fibrillation.

71. A method of long term monitoring a patient for an arrhythmia using a monitor having a first and second momentary contact electrode sized to contact a patient, and incorporating a detector circuit communicating with the first and second momentary contact electrode, the method comprising the steps of:

(a) touching at least one of the momentary contact electrodes;

(b) at no more than a predetermined interval, collecting from the patient an ECG sample when the patient touches the momentary contact electrodes, wherein the data is collected for a short period of time substantially less than a daily interval;

(c) determining at the detector circuit whether the patient is experiencing the arrhythmia, including:

(i) using a first detection method to determine a first likelihood that the patient is experiencing the arrhythmia;

(ii) using a second detection method to determine a second likelihood that the patient is experiencing the arrhythmia; and

(d) provide a first output signal to the patient when at least one of the two likelihoods is above a predetermined threshold and otherwise providing to the patient a second output signal indicating that the likelihood is not above the predetermined threshold.

72. The method as recited in claim 71, further comprising:

e) storing ECG data in a cascading memory having a plurality of memory storage locations;

f) assigning an age indicator to each stored ECG signal;

g) directing the stored ECG data into a memory slot currently storing ECG data having an oldest age indicator.

73. The method of claim 71, wherein step (a) further comprises sensing that the patient is touching at least one of the momentary contact electrodes.

74. The method of claim 71, wherein step (a) further comprises placing the contact electrodes in constant contact with the patient, wherein step (b) is performed at predetermined intervals.

75. The method of claim 71, wherein step (a) further comprises placing one contact electrode in constant contact with the patient, wherein the patient momentarily touches the other electrode, further comprising the step of sensing that the patient is touching both contact electrodes.

76. The method of claim 71 wherein step (b) is conducted in the morning after the patient wakes.

77. The method of claim 71 wherein the monitor includes a communication circuit and further including the step of:

(e) communicating of the recorded ECG signals to a remote site.

78. The method of claim 77, wherein step (e) further comprises communicating previously stored ECG signals to the remote site.

79. The method of claim 78, wherein the communication circuit further comprises a telephone line communication circuit.

80. The method of claim 71 wherein the monitor includes a clock circuit and further including the step of:

(e) providing a second output signal to the patient at daily intervals to remind the patient to grasp the momentary contact electrodes.

81. The method of claim 71 wherein the monitor includes a text display communicating with the detector circuit and further including the steps of:

(e) providing text messages instructing the patient in touching the first and second momentary contact electrodes and remaining in contact with the elements prior to generation of the output signal.

82. The method of claim 71, further comprising the step of storing baseline ECG data in nonvolatile memory and comparing the collected ECG signal to the stored baseline ECG data.

83. The method of claim 71, wherein step (d) further comprises providing the signals with at least one of a light, a vibrating mechanism, a display, and an audible alarm.

84. The method of claim 71, wherein the momentary contact electrodes are capacitively coupled.

85. The method of claim 71, further comprising the step of storing baseline ECG data, wherein step (c) further comprises comparing the collected data to the baseline data to determine the likelihood of a prolonged QT interval.

86. A method of long term monitoring a patient for an arrhythmia using a monitor having a plurality of contact electrode sized to contact a patient, and incorporating a detector circuit communicating with the electrodes, the method comprising the steps of:

(a) placing the contact electrodes in contact with the patient;

(b) collecting from the patient at least two channels of ECG data on a continuous basis;

(c) determining at the detector circuit whether the patient is experiencing the arrhythmia, including:

(i) using a first detection method on a first channel of data to determine a first likelihood that the patient is experiencing the arrhythmia;

(ii) using a second detection method on a second channel of data to determine a second likelihood that the patient is experiencing the arrhythmia; and

(d) provide a first output signal to the patient when at least one of the two likelihoods is above a predetermined threshold and otherwise providing to the patient a second output signal indicating that the likelihood is not above the predetermined threshold.

87. The method as recited in claim 86, further comprising selecting a channel exhibiting a greatest R-R interval compared to the other channel.

88. The method as recited in claim 87, wherein the first detection method further comprises analyzing the R-R interval from the selected channel.

89. The method as recited in claim 88, wherein the second detection method is applied to the non-selected channel.

90. The method as recited in claim 86, further comprising storing recent ECG data in nonvolatile memory when at least one of the two likelihoods is above the predetermined threshold.

91. The method as recited in claim 86, further comprising storing recent data in volatile memory upon an arrhythmatic patient symptom.